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HIGH SCHOOL PROGRAMME WITHOUT GREEK

The last twelve months have been important ones in the history of the colleges and public high schools of the United States. For many years the gap between the college and the English high school has been gradually but surely disappearing, in spite of the conservatism of two or three of the New England colleges. The impetus given to popular education by Horace Mann, the introduction and intelligent use of the epoch-making ideals and methods of Pestalozzi and Herbart, the superior education and pedagogical activity of secondary teachers, and finally the great awakening and coöperation of colleges and schools in associations of a more or less general nature—all these influences have tended to place the people's high schools on the same plane as the classical preparatory school, and to make possible in college and in school an American standard worthy of respect and general adoption.

The establishment of state universities with parallel courses of substantially equal strength, leading to different degrees, and the more recent lead taken by Harvard College in accepting substitutes for the traditional requirements and in proving that there are other and apparently just as good roads to a liberal education and to the A.B. degree as under the old system—these are natural steps in the development of a national educational system as democratic and as free as our system of government. The concerted action of representatives of Harvard, Yale, Columbia, Princeton, Cornell, and the University of Pennsylvania, in New York last February, was a tacit acknowledgment by the great, conservative colleges that the people's schools were entitled to a reasonable, uniform system of requirements for admission. Full consideration was given to the modern subjects, French, German, and history, but the sciences are entirely ignored. The decision to accept any two histories, chosen from the great nations, Greece, Rome, England, and the United States, gave definiteness very helpful in planning the best programme for the secondary school. Acting under this agreement in regard to subjects and amounts, Cornell University has done away with the degrees of Ph.B.,

B.L., and B.S., and named as primary requirements in all courses—English, physical geography, physiology and hygiene, two histories, plane geometry, and algebra to the progressions. As advanced subjects for admission to the A.B. course, the student may present Greek and Latin, Latin and advanced French or advanced German, or he may omit both ancient languages and present advanced French, advanced German and solid geometry, plane and spherical trigonometry. This plan places the English high school, the classical high school and the college preparatory school on substantially the same plane, and enables any boy or girl graduated from any good secondary school to secure a liberal education and an A.B. degree. If Cornell should go one step further and allow an option in biological science, add one physical science, chemistry or physics, and drop spherical trigonometry, for which there seems to be no warrant, either pedagogical or utilitarian, the schedule maker would have an easy task in developing a standard course which would give the student a well-rounded, symmetrical development at whatever point he might leave the school. In Germany the educational tide is running strongly in the direction of emphasizing the practical affairs of life and the training the citizen rather than the specialist during the years corresponding to our secondary period. The time has gone by in Germany and in America when difficult studies are kept in the secondary programme merely because they are difficult. Every study today must furnish the student more than mere mental gymnastics. The people's schools and the nation's needs must be kept constantly in view.

From Michigan to California the articulation, so much desired by the East, came naturally from the happy union of the New England common school and Jefferson's conception of a state university. In these states it is substantially true that every child is born with an unbroken educational inheritance, beginning with the kindergarten and extending through the graduate departments of the university. This connection may be made just as close between every secondary school and every college, if we can agree on a standard programme that embodies the best that modern pedagogy can give us for children of the secondary age, regardless of future specializing; and if the college will all accept this course as adequate preparation for its higher culture work and its professional training. The Committee of Ten and the Committee of Fifteen have given wide circulation to what

may be regarded as the most authoritative decisions of American pedagogy. The ninety-eight teachers connected with the Committee of Ten were unanimous in their decision that "every subject in the secondary curriculum should be taught in the same way and to the same extent to every pupil, regardless of his destination or the length of his school course." The highest pedagogical authorities, the taxpayer and the schedule maker for the secondary school, all unite in this demand. The colleges are gradually adapting their requirements to the development of the highest culture in all departments of our national life. In the educational meetings of the Eastern and Middle States during the last year, college men of the highest authority have almost universally acknowledged that "in any properly organized scheme of education, higher courses must adjust themselves to lower, to the end that interruption at any point will occasion the least possible waste." In planning the best course for the development of the student we must consider the five sides of a child's nature and see that the five culture groups are properly coördinated.

HIGH SCHOOL PROGRAMME WITHOUT GREEK, DISCUSSED AT THE MEETING
OF THE NEW ENGLAND ASSOCIATION, OCTOBER 10, 1896.

YEAR I.—Latin or modern language, (5); English, (3); history, (2); algebra, (4); drawing or physical geography, (4); physical training [two half-periods] (1); vocal music, (1). Total 20.

YEAR II.—Latin or modern language [French or German], (4); second foreign language [German or French], (3); English, (3); history, (2); geometry, (3); botany or zoölogy, (3); physical training [two half-periods], (1); vocal music, (1). Total 20.

YEAR III.—Latin or modern language [French or German], (4); second foreign language [German or French], (3); English, (2); history, (2); mathematics [elementary algebra and plane geometry], (4); physics or chemistry, (3); physical training [two half-periods], (1); vocal music, (1). Total 20.

YEAR IV.—Latin or modern language [French or German], (6); second foreign language [German or French], (3); English, (3); history and civil government, (3); physics continued, or chemistry continued, or astronomy, or anatomy, physiology and hygiene, or advanced mathematics, (3); physical training [2 half-periods], (1); vocal music, (1). Total 20.

SUMMARY.—Latin or modern language, (19); second foreign language, (9); English, (11); history and civil government, (9); mathematics: algebra [6 or $7\frac{1}{2}$] plane geometry [5], plane trigonometry or solid geometry [$1\frac{1}{2}$ or 0] (11, 12 $\frac{1}{2}$ or 14); science, (9 or 13).

ABSOLUTE REQUIREMENTS.—Latin or modern language, (19); English, (11); history, (9); mathematics [without solid geometry], (11); science, (9).

**HIGH SCHOOL PROGRAMME WITH GREEK, PRESENTED AT THE MEETING
OF THE NORTH CENTRAL ASSOCIATION, FEBRUARY 12, 1897.**

YEAR I.—Latin or modern language [French], (5); English [essay and library work one period], (3); history, Greek and Roman [library work one period], (4); algebra to quadratics, (4); physical geography, (3); drawing, (1). Total 20.

YEAR II.—Latin or modern language [French], (5); Greek or modern language [German] or history, (3); English [essay and library work one period] (3); mathematics: plane geometry [with easy originals] (3), algebra [through progressions] (2); botany or zoölogy or biology, (3); drawing, (1). Total 20.

YEAR III.—Latin or modern language [French], (5); Greek or modern language [German] or [English history three periods and Science three periods], (5); English, (2); mathematics: solid geometry two periods, plane geometry [originals] one period, elementary algebra [reviewed] one period, (4); physics or chemistry, (3); drawing, (1). Total 20.

YEAR IV.—Latin or modern language, (5); Greek or modern language or plane trigonometry and advanced algebra (4); English, (3); American history and civil government, (3); advanced physics or advanced chemistry or other science, (3); reviews, (2). Total 20.

SUMMARY.—Latin or modern language, (20); English, (11); Greek or modern language (12); history and civil government, (7, 10, or 13); mathematics: algebra [7 or 9], plane and solid geometry [6], trigonometry [2], (13, 15, or 17); science, (12 or 15).

ABSOLUTE REQUIREMENTS.—Latin or modern language, (20); English, (11); history [Greek, Roman, and American], (7); mathematics [algebra, plane and solid geometry], (13); science [physical geography, biological science, and physical science], (12).

Without attempting a profound discussion of the educational values, I present as concrete subjects for consideration, first, the programme proposed at the last New England meeting as a course giving enlargement of options in admission requirements, and forming a closer connection between colleges and the non-classical high schools, and by its side a programme developed from Table IV, Committee of Ten report, tested by two year's experience in a Michigan academy preparing for colleges as widely separated in location and in requirements as Yale in the extreme East and Stanford in the far West. The

discussion of the first programme presented by Dr. Tetlow is reported in the December SCHOOL REVIEW and is worthy of careful consideration. The members of the association commended the programme and many were in favor of its immediate adoption. A resolution was passed favoring "an enlargement of options in admission requirements with special reference to a closer connection between the colleges and non-classical high schools." The second programme aims to secure still greater options and to effect a closer union between the colleges and the secondary schools. Does this programme conform to the *criteria* of the Committee of Fifteen in securing psychological symmetry or training of the whole mind? In my opinion it does. Algebra, geometry, chemistry, physics, and astronomy, following in regular order, give the student command of nature in its quantitative aspect. Physical geography, botany or zoölogy, and physiology present a clear view of animal and vegetable life as related to inorganic matter. English, and, to a limited extent, the foreign languages, develop the literary or art side. Drawing falls naturally in this group as well as among the mathematical studies. These literary subjects reveal man as master of organic and inorganic nature—man in society, in the state, and in the church. The grammatical group embraces some of English and the greater part of foreign languages, as taught in secondary schools. Here the sign is studied as the manifestation of the thought, and the thoughts are classified. Orthography, etymology, and syntax lead to logic and psychology. These studies not only train the student to speak and write correctly, but, in the words of Dr. Harris, "open the windows of the mind toward the logical, philological, or psychological structure of human thought and action." The fifth group of related studies contains the histories of Greece, Rome, England, and America, with a possibility of mediæval and modern history in the second year of the course. These subjects lead to a knowledge of sociology and politics, presenting to the student the wisdom of the past. These five groups need different treatment, and develop different parts of the student's nature. The traditional course of Greek, Latin, and mathematics developed the boy and girl strongly in two directions, but almost totally disregarded the other three.

Students dropping out of this course at the end of the first year would have valuable training in English and in one foreign language, a fair knowledge of algebra, an inspiring view of Greek history, the type and interpreter of all subsequent histories, a good introduction

to the study of Roman history, and lastly, through the study of modernized physical geography, an awakening sense of his relation to organic and inorganic nature, his companions and instruments in all the activities of life. Dropping from the course at the end of the second or subsequent years, he will find himself possessed of greater power and of more valuable information. If he finishes the course, he has at least valuable training in English (11 p.), Latin or modern language (20 p.), mathematics (13 p.), history (7 p.), science (12 p.), and in other subjects (17 p.), if the full eighty periods are taken. Can there be any doubt that this course will turn out a well-trained, symmetrical student, capable of doing full justice to the A. B. course, as well as to the engineering and other professional courses of any college?

This course may be criticised as requiring too many prepared recitations for the student. I am convinced that unprepared recitations may be allowed in some subjects without loss to the student. In the first year one hour of English and one of history may be spent in the library, learning the use of books and actually using them in a scientific manner. If the student is to be the "heir of all ages" he must know how to find and enjoy his inheritance. With two thousand volumes arranged according to the Dewey system, and provided with a dictionary card catalogue, a school library is a great factor in educational work. One period of physical geography may be devoted to talks and experiments by an enthusiastic teacher, thus giving greater love of nature and a deeper insight into nature than would result from a prepared recitation. In Latin and modern language work an unprepared lesson may be employed in one or more years, if used with the pedagogic skill described by Mr. Burgess in an admirable article on unprepared recitations in the *SCHOOL REVIEW* of January 1896. In our experiment with this programme the class in Cicero last year did the required work with more than usual success, using one period for unprepared work. The teacher gives inspiration and direction to the student in a way that results in scholarship and power, just what the student most needs, especially in the first year of the high school. While I would not offend the National Philological Association by advocating a reduction in the time given to Latin preparation, I cannot claim that the secondary student receives a symmetrical development when more than one-fourth of his prepared recitations are Latin, and more than one-half are language work. For this reason it seems pedagogically sound to employ unprepared recitations in Latin when

necessary in order to give the student a reasonable amount of history or science. Beginning Latin in the eighth grade may solve the problem to the satisfaction of all. One period per week in plane geometry, and one in review algebra, may profitably be used as laboratory hours, enforcing the lessons already learned and requiring every student to solve difficult originals under the eye of an inspiring teacher. Hours spent in this work have seemed to me most fruitful in producing stronger scholarship and better methods of study. Thus the programme may be brought down to an average of seventeen prepared lessons per week if local conditions demand it. Recent statistics show that the average number of prepared recitations per week in the Michigan high schools is about nineteen, while only 10 per cent. have as low as seventeen.

This programme gives three and four hours per week to several subjects. By practical experience in schedule making I find no great difficulty in avoiding conflicts for the student. None would occur in a closely graded school. The complicated time schedule of the student, caused by daily variations, seems to offer objections, but in practice no greater inconvenience is experienced than in similar allotment of time in college. The benefits arising from the symmetrical development of the student greatly overbalance the slight inconvenience. In Germany it is acknowledged by pedagogical experts that the system of three periods per week often creates more interest in the recitations, and produces greater permanent results than five periods per week for a shorter time. All recent programmes of German schools give evidence of this fact. While a student may forget more and be obliged to review back lessons more frequently, I am convinced that when he masters the subject he will remember it longer than he would with greater concentration and a shorter course. The student must have time to absorb and assimilate his subject in its breadth and depth.

As substitutes for Greek or a modern language, mediæval and modern history may be taught in the second year, English history and a science (possibly chemistry) in the third year, and plane trigonometry and advanced algebra in the last year,—a fair representation of history, science, and mathematics. Whether or not this is a fair equivalent or a profitable substitute for Greek depends largely on the excellence of the teaching of these subjects. The advanced mathematics are harder than Greek, and result in three times as many

failures for college admission, as is shown by President Eliot's last report.

Fifteen periods of French, and twelve of German, should prepare for the advanced requirements of any college. This leaves time for advanced mathematics in place of the other language the fourth year. The twelve periods of Greek will satisfy all but the most tenacious of the conservative classical colleges. Three books of Homer can easily be added to attic Greek in this time. Solid geometry is a required study. The West could not give up this subject, and the East is gradually coming to the same conclusion. Physics or chemistry, three periods per week for two years, is required. This is the German plan. If the first year's work is given to the simpler and more practical parts of the subject, the German educator, as well as Dr. Harris, will doubtless be satisfied, as this will give to the many who leave the school before the senior year most useful training in a physical science. The three periods per week in the fourth year will give Harvard's advanced requirement in physics.

As far as I can judge, this programme will, with only slight modification, prepare for the most exacting colleges, provided only that they allow a knowledge of the subject, and not specified texts, to determine the fitness of the candidate. If this association will agree on this, or on some better standard programme, characterized by liberal options, fitted for every good secondary school in the North Central States,—a course that will give the student symmetrical training at every stage of his growth,—the time will surely come, and come quickly, when every college will welcome to its highest culture course the graduates of the American secondary school, and the standard of the college and the school will be advanced together in a closely articulated national system.

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